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ABSTRACT

This chapter moves toward defining high-risk youth as young persons with low probabilities of gaining an education, getting a job, parenting effectively, or being able to participate in the political process. Five snapshots are presented of the latest information on the prevalence of the five categorical behaviors of interest: (1) substance abuse, including smoking, drinking, and drugs; (2) sexual behavior; (3) delinquency/violence; (4) depression/suicidal ideation; and (5) school failure. The chapter summarizes recent attempts to examine the interrelationships between and co-occurrences among these behaviors. Risk factors or predictors are examined to determine the attributes of high-risk youth across behavioral domains. Protective factors which foster resiliency to the consequences of high-risk behaviors are described, including: (1) attachment to a caring adult; (2) independence and competency; (3) high aspirations; and (4) effective schools. The chapter offers observations about the shaping of prevention programs in the context of Healthy People 2000. The chapter notes that the trends in prevalence of risky behaviors during the past decade are not encouraging, and suggests the need for much more intensive and large-scale replication of effective prevention programs, using proved components that cut across categorical domains. Contains 30 references. (SD)

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The Prevalence of Problem Behaviors: Implications for Programs

JOY G. DRYFOOS

My interest in problem behaviors started off in one specific categorical domain, the prevention of teenage pregnancy. By the 1980s, it was becoming clear that early unprotected sexual intercourse was not an isolated behavior but had to be viewed in relationship to what else was going on in the young person's life and in the settings in which a young person lived. One simple cross-tabulation changed my perspective. On the basis of data from the 1980 National Longitudinal Survey of Youth, it was shown that among 16- to 19-year-old females, about 21% to 23% of those who were both below average in basic skills and poor became teen mothers, compared with 3% to 5% of those who had average or better basic skills and were not poor (Pittman, 1986). The proportions were almost the same for White, African American, and Hispanic young women.

If school failure and poverty were so strongly related to early childbearing, were other problem behaviors also related to those factors? With this question in mind, I began to explore the interrelationships among behaviors relating to substance use, delinquency, sexual activity, and school performance. I wanted to ascertain the risk status of American adolescents to have a better fix on the design of prevention programs. My goal was to quantify the number of young people who "did it all," "did some of it," and those who were not apparently in danger of any negative outcomes from their social

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activities or their school performances. This work was published in *Adolescents at Risk: Prevalence and Prevention* (Dryfoos, 1990).

I found, like many other researchers, that risk behaviors did indeed cluster and that a number of common factors could be identified across behavioral domains that either put young people at risk or protected them from the consequences. At that time, I estimated that 10% of all 10-to 17-year-olds were at extremely high risk—already in the juvenile justice system—and another 15% were involved in the whole array of high-risk behaviors such as using drugs and alcohol, having unprotected sexual intercourse, and failing in school. Another 25% were on the brink, experimenting and vulnerable. Half of all young people appeared to be relatively safe from negative consequences of their behaviors—as long as their families, schools, and neighborhoods remained stable.

This estimate was somewhat speculative because no one source of data included all the categories of interest. From the few studies that went beyond a single variable, I had pieced together a "simulated" estimate, extrapolating from various sources to create a construct of the distribution of high-risk behaviors among the adolescent population. Since 1990, a virtual explosion of data has become available relating to high-risk adolescents. Not only has interest been piqued in young people with various problems, but a new field of research has emerged that looks at resiliency and healthy youth development, the flip side of high-risk behavior. The problem behavior territory has been expanded to include risk for HIV infection, adding measurements such as number of sexual partners, sex with drug-using partners, and condom use. My own comprehension of "high riskness" now encompasses mental health variables such as depression and stress.

The terms *high risk* and *low risk* are used in the broadest sense in this work. In the literature, researchers have individual sets of definitions, usually differentiating one group from another by selected (and different) criteria. Some studies use family characteristics (e.g., single-headed household, low socioeconomic status) to define high-risk status; others use school performance (achievement scores) or problem behaviors (substance abuse). Some researchers look at early acting out such as aggressiveness in preschool, or even shyness, as predictors of future problems. My definition of high risk is this: having the attributes of a young

person with low probabilities of gaining an education, getting a job, effectively parenting, or being able to participate in the political process.

This chapter moves toward fleshing out that definition, because it is those characteristics of high-risk youth that should shape prevention methodology. But first, five "snapshots" are presented of the latest information on the prevalence of the five categorical behaviors of interest. Then recent attempts to examine the interrelationships between and co-occurrences among these behaviors are summarized. Using the latest data, the estimates of high-risk status are revisited, focusing this time on 15 million youth aged 14 to 17. The age range has been narrowed from 10 to 17 to fine-tune the estimate and target high school age youth. Adolescence is also the time when risky behaviors appear to peak. Risk factors or predictors are examined to determine the attributes of high-risk youth across behavioral domains.

Observations about the shaping of prevention programs are offered in the context of *Healthy People 2000* (U.S. Department of Health and Human Services, Public Health Service [DHHS], 1995), a volume that sets out behavioral objectives that young people were expected to meet. This review of the trends in prevalences of risky behaviors during the past decade is not encouraging, suggesting the need for much more intensive and large-scale replication of effective prevention programs, using proved components that cut across categorical domains.

Categorical High-Risk Behaviors

The term *categorical* is well understood by program developers because most funding for youth programs derives from categorical sources—funding streams that are dedicated to one type or category of problem behavior such as drug abuse, alcoholism, teen pregnancy, HIV/AIDS, suicide, and conflict. The current mode of program planning leans much more in the direction of *comprehensiveness,* putting together various components of categorical efforts to address co-occurring behaviors.

Sources of Data

A unique tool for tracking the prevalence of categorical behaviors became available to researchers in the early 1990s when the Centers for Disease Control and Prevention's (CDC) Division of Adolescent and School Health (DASH) launched the Youth Risk Behavior Surveillance System (YRBS; Kolbe, Kann, & Collins, 1993). A government panel was brought together to review the leading causes of mortality and morbidity among youth and to devise a questionnaire. This survey instrument was approved by a wide range of other scientists and potential gatekeepers, particularly school personnel. The system that emerged from this collaborative process entails three complementary components: a national probability sample of 9th to 12th graders; state and local school-based surveys; and a national household-based survey attached to the health interview survey that gathers information on school dropouts as well as current students.

The YRBS is unique in many ways. First of all, it focuses primarily on behaviors, rather than on knowledge and attitudes. It provides an annual portrait of youth at the national, state, and local levels that can guide practitioners and researchers in shaping interventions. This survey has been designed to capture information on 26 of the national health objectives and several of the national educational goals. The data discussed below derive from the 1993 report based on high school students from the national survey, 24 states, and nine localities (CDC, 1995). Additional data are presented from other surveys in the various categorical domains.

Substance Use

About one third of all in-school adolescents currently (within 30 days of the survey) smoke, half use alcohol, and almost one fifth use marijuana. Approximately 1% to 2% use cocaine, with little difference between use by males and by females.

Smoking. In regard to smoking, about 70% of all students have tried at least a puff or two, and 14% are frequent users. Use goes up with higher grade levels, but not dramatically. White students are most likely to report smoking (34%), African American students the least

likely (15%), with Hispanic students falling in between (29%). Prevalence of other forms of tobacco use is significant only among White, non-Hispanic males—26% reported using chewing tobacco or snuff during the 30 days preceding the survey.

Drinking. About 81% of all high school students have ever had a drink. Differences in current alcohol use (past 30 days) by grade are not large. About 41% of 9th graders are current drinkers, compared with 56% of 12th graders. Differences by race/ethnicity are not marked. Hispanic males have the highest rates (55%), and African American females the lowest rates (37%). Episodic heavy drinking is measured by the reported consumption of five or more drinks on at least one occasion during the past 30 days. Fully 30% of all high school students report this extremely high level of alcohol use, sometimes referred to as binge drinking. This rate increases with grade from 22% of 9th graders to 39% of 12th graders and is particularly high among Hispanic (39%) and White (36%) males.

Drugs. One third of all students have ever tried marijuana. Current use rises with grade, from 13% of 9th graders to 22% of 12th graders, and is most prevalent among African American and Hispanic males (24%). Hard drug use has low reported prevalence in the YRBS, but still 5% of all students have ever tried cocaine, and among Hispanic youth, 10% of females and 12% of males have done so. This difference is reflected among current cocaine users (past 30 days) with 6% of Hispanic youth reporting use. The same pattern is seen in youth who have ever used crack, with Hispanic youth showing higher rates (6%). Less than 2% of students reported ever having injected drugs, with higher rates among males than among females.

The YRBS asked questions about use of substances on school property within the past 30 days. Some 15% of students acknowledged smoking, 5% using alcohol, and 6% using marijuana at school. Almost one fourth reported that they had been offered, sold, or given an illegal drug on school property.

Substance use among adolescents has been tracked for several decades by the University of Michigan and through the National Household Survey on Drug Use. Although these surveys use differ-

ent methodologies and definitions from the YRBS, they are useful for tracking trends. Although substance use declined significantly in the 1980s, an increase in marijuana and cocaine use has been reported in recent years, as well as an upturn in the amount of binge drinking. Students report less concern about the consequences of substance use than in the past and greater access to the sources of supply in school and out in the community. Peer disapproval of marijuana has also declined, from a high of 70% among high school seniors in 1992 to 58% in 1994 ("Health Update," 1995).

Sexual Behavior

More than half of high school students report that they have ever had sexual intercourse, and 37% say that they have had intercourse during the 3 months preceding the survey. Differences between females and males are significant in 9th grade (32% of females ever had sex compared with 44% of males), but by 12th grade, the rate nears equity (66% of females and 70% of males). African American students are much more likely to report sexual intercourse (70% of females and 89% of males) than are White students (47% of females and 49% of males). Gender differences were shown among Hispanic students, with 48% of females and 66% of males so reporting.

One measure of high-risk behavior in the YRBS is having four or more sex partners during one's sexual "career." Almost one in five students reports this behavior, but the differences between groups are striking. Among African American students, 57% of males and 27% of females report four or more partners, more than twice the rate of Hispanics or Whites. The rate goes up with age, as would be expected.

More than half of the currently sexually active students report that they used a condom during their most recent act of sexual intercourse, and 12% reported the use of birth control pills. Males were more likely to report condom use: 59% of males did so, with highest rates among African Americans (64%). Still, 46% of females reported condom use, with the highest rates also among African Americans. Some 22% of sexually active females used birth control pills at last intercourse, with highest rates among White females (24%) and lowest rates among Hispanic females (15%).

The rates of sexual activity among adolescents have increased dramatically during the past several decades, particularly among White youth, who have almost "caught up" with African American youth and girls with boys. In recent years, the prevalence has leveled off and condom use has increased, perhaps in response to concerns about contracting HIV. The adolescent birthrate dropped in the early 1980s, rose in the early 1990s, and now appears to be diminishing slightly.

Delinquency: Violence

The YRBS provides measures of weapon carrying and fighting, reflecting behaviors that are clearly related to violence and conduct disorders. Almost one in four students carried some type of weapon within 30 days of the survey, and 8% acknowledged carrying a gun. In this domain, gender differences are significant. Some 34% of male respondents carried a weapon, 14% a gun, whereas 9% of females carried a weapon, 2% a gun. Gun carrying was reported more frequently by African American males (21%) than Hispanic (17%) or White males (12%). Students in the 9th grade were more likely to report carrying a gun than 12th graders (9% versus 7%), indicating that the potential for violence is already in place as students leave middle school and go to high school.

Students were asked whether they had carried a weapon such as a gun, knife, or club on school property within the past 30 days. At least 18% of males and 5% of females admitted that they had done so. Some 9% of males and 5% of females reported that they had been threatened or injured with a weapon on school property. It is not surprising that students feel too unsafe to go to school. About 10% of Hispanic, 7% of African American, and 3% of White high school students reported high levels of fear about their safety. More than a third of all students have had property stolen or damaged at school.

Male students were also more often in fights: More than half of the males reported this behavior within the past year, compared with 32% of females. Here, there were differences by race/ethnicity for females but not for males. About 42% of African American, 34% of Hispanic, and 30% of White female students were in physical fights.

Some of these young people turn up in juvenile court. According to the Department of Justice, almost 1.5 million delinquency cases were handled in 1992, a dramatic increase from 1988, when there were fewer than 1.2 million cases (U.S. Department of Justice, 1994). About 5% of all 10- to 17-year-olds were arrested, with the rate reaching 11% at age 16. More than 9% of 14- to 17-year-olds were involved with the courts. Males were almost five times more likely to be arrested than females (9% versus 2%), and the rate for African American youngsters (11%) was more than twice the rate for White youth (5%). One in five of those arrested was detained in secure facilities.

Depression: Suicidal Ideation

The YRBS provides insights into students' mental health through a series of questions on suicidal ideation. One in four high school students disclosed to the YRBS serious thoughts about attempting suicide within the past year, 19% made a suicide plan, and 9% actually attempted suicide. This behavior, highly indicative of depression and stress, is much more likely to be reported by females than by males (30% of females thought about suicide, compared with 19% of males). The prevalence among Hispanic and White students is similar (26% and 24%, respectively), higher than among African American students (20%). Hispanic female students, however, report a strikingly high rate of suicidal ideation (34%) and a 20% prevalence rate for attempts. Attempts appear to decrease with age, ranging from 10% of 9th graders to 7% of 12th graders.

A smaller study of middle school students provides more detail on mental health indicators (Millstein et al., 1992). More than a third of 6th- to 8th-grade students reported being bothered by feelings of anger, 26% said they were depressed, and 23% acknowledged that they were having problems getting along with others.

According to a recent review of the health of adolescents, the prevalence of developmental, behavioral, or emotional problems among youth under age 18 ranges from 17% to 22% (Ozer, Brindis, Irwin, & Millstein, n.d.). It is estimated that approximately 5 million adolescents aged 12 to 17 have emotional or behavioral problems.

School Failure

Measures of dropout, achievement, and school attendance rates are not typically included in surveys of high-risk behaviors. For example, the YRBS does not include any measures of school performance, although a special survey was conducted of school dropouts relating school problems to other categorical problems. For prevalence rates on school variables, one can look at the National Education Longitudinal Study (NELS), the U.S. Department of Education's enlightening longitudinal study tracking eighth graders since 1988 (National Center for Education Statistics, 1995).

When the NELS respondents were in 8th grade, almost one in five was not proficient at the basic level in mathematics, and 14% could not read at the most basic level (Hafner, Ingels, Schneider, & Stevenson, 1990). Significant racial/ethnic differences occur in school performance, with Asian and White students achieving higher scores, whereas African American, Hispanic, and American Indian students score much lower. Reading scores are the lowest for students who do not speak English at home. Children from low socioeconomic status homes are the least successful. Grades are mirrored in these scores, with minority students, especially males, having lower scores and grades. Among all 8th graders, 18% have already been held back a year.

By 10th grade, many of these low-performing students drop out. Rumberger (in press) conducted a unique analysis of the NELS data showing that during the 2-year period from 8th (middle school) to 10th (high school), 9% of Hispanic, 10% of African American, and 5% of White students dropped out. Students who had been held back were 11 times more likely to drop out than those who were not. By 10th grade, 26% of Hispanics, 33% of African Americans, and 19% of White high school students had been retained at least once. Those who were still in school by 10th grade were still in great jeopardy of not graduating. One can calculate rates of retention from census data by examining the proportion of each age cohort that is older than the norm. About 5% of all high school-age students are 2 or more years older than their peers, and 25% are 1 year older (U.S. Bureau of the Census, 1993, Table A-3).

The U.S. Census reports dropout statistics for the general population. In 1994, one in eight 16- to 24-year-olds no longer in school was without high school credentials (National Education Goals

Panel, 1995). The dropout rate for Hispanics was 30%, substantially higher than the rate for African Americans (13%) and for Whites (8%). This measure has changed little during recent years, lowering slightly among African Americans and Whites but rising for Hispanics, probably attributable to the continuing immigration.

The Monitoring the Future survey asked students whether they had skipped school or classes within the past 4 weeks (National Education Goals Panel, 1995). Some 11% of 8th graders had skipped school and 14% skipped class, whereas 31% of 12th graders skipped school and 37% skipped class. All the reported rates were highest among Hispanic students and lowest among Whites, following the pattern of dropout rates.

Summary of High-Risk Behaviors

Almost every adolescent appears to have tried some form of risky behavior. Nearly all high school students have tried smoking and drinking, and many regularly use cigarettes, alcohol, and marijuana. Gender differences are insignificant. These behaviors appear to be well established by 9th grade, with relatively small differences between those students and 12th graders. Race/ethnicity differences do appear, notably in the higher prevalence of marijuana and cocaine use among Hispanic males.

More than half of all high school students have experienced sexual intercourse. Higher-grade and African American students have the highest prevalence and are most likely to have had sex with multiple partners. Condom use among sexually active students is quite frequent, but the rates decline with grade as birth control pill use increases.

High school students report serious vulnerability to the consequences of violent behavior, not surprising because a third of all males and almost 1 in 10 females carry some type of weapon. That almost 14% of male students report carrying guns is mind-boggling. Physical fights are prevalent, and many students are afraid to go to school because of the threat of injury, property destruction, or worse. More than 9% of 14- to 17-year-olds were arrested and entered the juvenile justice system in a year.

One in four high school students reports having contemplated suicide within the past year, and almost 9% actually attempted it. Rates were significantly higher among females, particularly His-

panics. One in five Hispanic females reported a suicide attempt within the year. But even so, one in five male high school students reported thinking about suicide, and 5% actually tried it.

Finally, one in five 8th graders cannot do math, and one in seven can barely read. About one fourth of 10th graders have been retained in a class, a powerful determinant of dropping out. Some 12% of all young people did not finish high school. All the measures relating to school issues point toward the greater vulnerability of poor, minority youth, particularly when they are situated in segregated schools.

Table 2.1 summarizes these findings among the current population of 14- to 17-year-olds (N = 14,600,000). Large numbers of young people are involved with problems that may have hazardous consequences.

Co-Occurrence of High-Risk Behaviors

Many young people report that they are involved with risky behaviors. These behaviors do not occur randomly. They come in packages. An expansive literature has emerged that describes these interrelationships reflecting the availability of multivariable data sources such as the YRBS and the advances in computer technology.

Summary of Co-Occurring Behaviors

Many published analyses that interrelate the various behaviors of interest have been reviewed here. Because most of these data bases are cross-sectional, rather than longitudinal, researchers are careful not to draw causal inferences from the correlations. It is clear, however, that these high-risk behaviors do come in packages, some youth do "do it all," and some do little.

Substance abuse is closely related to delinquency. Almost all adjudicated youngsters report some involvement with drugs. Heavy alcohol, smoking, and marijuana use appears to co-occur with early unprotected intercourse and multiple partners. Nonusers are less likely to initiate risky sexual relationships. Heavy smokers are much more likely to contemplate suicide.

Table 2.1 Percentage of 14- to 17-Year-Olds With Categorical Risk Behaviors, Circa 1993

Indicator	*Percentage*
Total	100.0
Substance use	
Current drinking	48.0
Binge drinking	30.0
Current smoking	30.5
Current marijuana	17.7
Hard drugs	1.9
Sexual activity	
Sexually active	53.0
No condom use, sexually active	25.0
Teen mother (females)	2.7
Delinquency	
Adjudicated	9.4
Carry guns	7.9
Truant	20.0
Depression/suicidal	
Suicide attempt	8.6
Suicidal thoughts	24.1
School	
Dropout	4.9
Two years behind in school	5.0
One year behind in school	25.0
No reported high-risk behaviors	15.0

Young people who initiate sex at early ages, have multiple partners, and do not use protection are often under the influence of alcohol and/or drugs when they participate in sexual activity. Nonvirgins report much higher rates than do virgins of delinquent behavior such as fighting or weapon carrying and trouble in school. Early sexual initiation is a strong indicator of multiple partners, not using condoms, having been pregnant or causing a pregnancy, and, among females, feeling depressed and having a sexually transmitted disease.

Violent behavior is highly related to other negative outcomes such as substance use and unprotected sex. Cocaine use is one of the most significant predictors of carrying a gun to school. The most

delinquent youth are much more likely to be involved in any form of drug use, to have dropped out or be failing, to have poor mental health, and among girls, to have early pregnancies. The link between delinquency and being held back in school appears as early as first grade.

Dropouts appear to be involved with sex, drugs, and violence to a much greater degree than enrolled high school students. School dropouts are much more likely to have had sexual intercourse with multiple partners, to smoke daily and use marijuana, and to carry weapons and fight. Falling behind in school and frequent truancy are strong predictors of dropping out and are associated with all the high-risk behaviors. Dropouts report frequent suspensions, arrests, and significant time spent in juvenile homes or shelters.

Depression and stress, as measured by suicidal ideation, are strongly related to early intercourse. Sexual abuse is implicated in this pathway because it is related to unprotected sex, drug use, and depression. Reported incest and extrafamilial sex abuse are strikingly high among chemically dependent adolescents. Young people who contemplate suicide are more likely to use alcohol and other drugs. The most significant association is between the most serious suicide attempts and the most illicit drugs such as cocaine.

Numbers of Risk Behaviors

A number of studies have addressed what I call the "packaging" issue, the cumulative effects of multiple risk behaviors. Others have looked at numbers of nonpersonal factors that increase risk—demographic and family variables that appear to put young people in jeopardy of negative consequences such as dropout.

Co-occurrence of problem behaviors was measured by Ellickson, Saner, and McGuigan (in press) for both the most violent youth and those who reported only occasional activities. Among the half of the youth who were delinquent in the less stringent definition, more than half reported at least one other problem behavior (also broadly defined), 9% had only one other problem, 23% had two others, 16% had three others, and 5% had four other problem behaviors.

In 1990, Search Institute, a nonprofit research organization, conducted a survey of more than 46,000 youth in grades 6 to 12. Although the sample was heavily Midwestern and 90% White, on key indicators such as those found in the YRBS, the findings were

quite similar. Benson (1993) used these data to produce a unique analysis of at-risk behaviors, defined as "choices that potentially limit psychological, physical, or economic well-being during adolescence or adulthood" (p. 39). Benson selected 20 at-risk indicators in the domains of substance use, sex, depression/suicide, antisocial behavior, school, vehicle safety, and bulimia. Almost a third of the students reported four or more at-risk indicators, rising from 6% of 6th graders to 50% of 12th graders. Boys had higher rates of multiple risk involvement than did girls. Of 6th graders, however, 40% were not at risk in any of the domains, decreasing to 11% of 12th graders.

Table 2.2 presents the patterns derived from the Search Institute study of co-occurrences among selected high-risk behaviors for students in grades 9 to 12. The indicators measure the riskiest of behaviors: For alcohol, it is binge drinking; for tobacco, daily or frequent use; for illicit drugs, six or more times a year; for sexual intercourse, more than twice; frequent depression or attempted suicide; for antisocial behavior, two or more incidents of vandalism, theft, fighting, trouble with the police, or weapon use. School problems are measured by two or more absences in a month and/or the desire to dropout.

Table 2.2 clearly demonstrates the significant overlap between these behaviors. For example, almost all the students who report that they use illicit drugs also report that they are sexually active (84%). The youth who are having trouble in school are likely to binge on alcohol (62%), be sexually active (72%), and have some delinquency problems (53%). Everyone who does one thing, however, does not always do another. Thus, among self-reported illicit drug users, apparently 16% are not yet sexually active. Among youth with school troubles, 38% do not binge on alcohol, 28% are not sexually active, and 47% are not delinquent.

Hahn (1995) used a database created by *Phi Delta Kappa* to examine the clustering of 24 risk indicators (measuring personal pain, academic factors, and family factors). He found that 85% of the respondents had at least 1 of the risk indicators. By 10th grade, almost 31% had 3 or more risks, 14% had 5 or more risks, and 1.2% reported 10 or more risk factors. The prevalence of certain risk factors increased dramatically with age, as expected, giving further evidence of the importance of what Hahn calls the "nipping in the bud" approach to early intervention.

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Table 2.2 Co-Occurrences of Problem Behaviors

If at Risk in This Area	*Percentage of 9-12 Graders at Risk in This Domain*	*Alcohol*	*Tobacco*	*Illicit Drug Use*	*Sexuality*	*Depression/ Suicide*	*Antisocial Behavior*	*School*
Alcohol	31	—	42	27	70	33	49	23
Tobacco	20	66	—	35	77	39	53	26
Illicit drugs	11	72	60	—	84	46	61	32
Sexuality	44	49	34	22	—	34	41	19
Depression/Suicide	25	41	30	21	59	—	38	18
Antisocial behavior	28	54	37	24	64	34	—	22
School problems	12	62	43	31	72	40	53	—

SOURCE: Adapted from *The Troubled Journey: A Portrait of 6th-12th Grade Youth* (Figures 5.6 and 5.9), by P. Benson, 1993, Minneapolis, MN: Search Institute. Adapted with permission by P. Benson, President, Search Institute.
NOTE: This table should be read as follows: 31% of students are at risk of alcohol abuse. If a student is at risk in the area of alcohol use, then the probability that the student uses tobacco is 42%, uses illicit drugs is 27%, is sexually active is 70%, and so on.

Vanderschmidt, Lang, Knight-Williams, and Vanderschmidt (1993) investigated five risk behaviors (violence, sexual activity, and alcohol, cigarette, and drug use) among a sample of inner-city middle school students. Prevalence rates were high (11% had carried a gun, and 46% were sexually active). Almost 80% of the students reported past or present risk in one or more of the categories. Among those with two or more past or present risks, 80% included violence and 71% included sexual activity. When only current risk was considered, the prevalence reached 94% for violence and 85% for sexual activity. In this sample, 20% reported no risk behaviors ever, and one third said they were not currently involved.

A number of studies have looked at runaway youth in shelters or homeless youth who are by definition high risk. A survey of street youth in Los Angeles, New York, and San Francisco exhibited high prevalences: 52% to 71% were sexually active but not using protection, 41% to 68% were hustling, drug dealing, and/or stealing, and 77% to 96% were involved with drugs (Kennedy, Greenberg, Clatts, Kipke, & Mills, 1994). One in four in San Francisco, almost a third of the Los Angeles respondents, and almost half of the New York group did it all. Only 2% to 13% of street youth were not involved in any of those risky behaviors.

Sequencing of High-Risk Behaviors

I have abstained from entering the extensive debate over the sequencing of problem behaviors and which of these behaviors comes first. My own view is that early initiation of any of the behaviors predicts trouble ahead across domains. Young children with conduct disorders are identifiable in preschool classes. If they are not treated, they have high probabilities of getting involved at early ages with sex, drugs, and/or violence. Whether children have sex at 10 (many boys report that they do!), smoke at 8, or get drunk for the first time at 11 does not make much difference. Any of those acts is quite likely to lead to the others. Early sexual acting out among young girls frequently leads to school failure (long before the unintended pregnancy that often follows). Being left back in school predicts trouble, and being left back twice guarantees failure.

Estimates of Risk Status Groups

On the basis of the findings presented here, it is possible to estimate the numbers of young people aged 14 to 17 who fall into groupings of problem behaviors, from the highest risk to no risk at all. Although much more information is available than in the past, this is also a simulated estimate, taking existing data from several sources and forcing the numbers and ratios into cells according to the patterns that have emerged. The percentages of young people involved in each one of the categories were shown in Table 2.1. Table 2.2 and the summary of co-occurrence studies in the text provide insights into how these behaviors overlap and can be aggregated.

Table 2.3 shows the estimates of the distribution of 14- to 17-year-olds according to risk status. About 15% of high school age youth are at very high risk of extremely negative consequences. Another 15% are involved in similar behaviors that will place them in great jeopardy of never "making it." About 35% of contemporary youth are experimenting with various high-risk activities, and they can go either way, to success or failure. The rest of the young people (35%) are at very low risk or not at risk because of their behaviors. Thus, for the purposes of targeting programs and understanding the current ecology of youth behavior, the teen population can be divided roughly into thirds.

Table 2.4 shows the distribution of the categorical behaviors according to risk groups. A review of the prevalence of problem behaviors for the total population shows that 25% of all 14- to 17-year-olds are behind grade, and 5% have already dropped out.

Table 2.3 Estimates of Numbers and Percentages in Each Risk Status Group

Status	*Percentage*	*Number (000s)*
Total in population	100%	14,600
Very high risk	15	2,200
High risk	15	2,200
Medium risk	35	5,000
Low risk	20	2,900
No risk	15	2,200

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Table 2.4 Distributions of Categorical Behaviors According to Risk Status Group

	Total With Problem: Percentage of 14- to 17-Year-Olds	*Percentage of Very High Risk*	*Percentage of High Risk*	*Percentage of Medium Risk*	*Percentage of Low Risk*	*Percentage of No Risk*
Current drinking	48	80	70	60	24	—
Current smoking	31	60	50	35	10	—
Current marijuana	18	40	40	16	—	—
Sexually active	53	90	80	60	34	—
Sexually active/No condom use	25	68	52	20	—	—
Adjudicated	9	62	—	—	—	—
Carry guns	8	52	—	—	—	—
Truant	20	45	45	18	—	—
Suicide attempt	9	18	18	8	—	—
Suicidal thoughts	24	40	40	35	—	—
Dropout	5	33	—	—	—	—
Two years behind	5	33	—	—	—	—
One year behind	25	20	75	31	—	—

NOTE: This table should be read as follows: 48% of all 14- to 17-year-olds currently drink. Among *Very High Risk* youth, 80% drink, among *High Risk* youth, 70% drink, and so on.

Some 18% to 48% are involved in some form of substance use, and 53% are sexually active. More than 9% have been adjudicated as delinquents, 22% carry weapons, and 21% report truancy. Almost a fourth have suicidal thoughts, and 9% report having made an attempt. But these prevalences are different in the various risk groups.

High-Risk Youth

According to this distribution (Tables 2.3 and 2.4), *Very High Risk* youngsters are those who have been within the juvenile justice system within the past year, carry guns, and/or use illegal drugs such as cocaine. About 15% of all 14- to 17-year-olds fall into this category. It is estimated that among these 2.2 million young people, more than 60% would have been arrested at least once during a year. More than half would have access to guns. At least 80% would drink, 40% would be users of illegal drugs, and 90% would be sexually active, mostly unprotected. About 40% would be depressed, and many would have attempted suicide. About one third would have already dropped out of school and another third would be 2 or more years behind. The remainder would be 1 year behind.

Another 15% of all adolescents are at *High Risk* much like the first category, but they have not yet been adjudicated. Some of them might be identified as *High Delinquency Risk*. They are heavily involved with drinking, smoking, and marijuana; are behind modal grade in school and often truant; and frequently have unprotected intercourse. Others might be identified as *High Mental Health Risk* adolescents with some of the same behaviors as the group above, but they also are extremely depressed, as indicated by suicide attempts. These 4.4 million high-risk youngsters, almost one third of the youth population, are in great jeopardy unless they receive immediate, intensive interventions.

Medium-Risk Youth

Medium Risk young people make up the largest category. About 35% of all 14- to 17-year-olds—some 5 million youngsters—are involved in one or two high-risk behaviors, but less intensely. They may be behind in school (31%) and occasionally truant (18%), or drink once in a while (60%), or experiment with marijuana (16%),

or have sex (60%) without contraception sometimes, or have suicidal thoughts from time to time (35%). These young people are clearly vulnerable because of their behaviors and need considerable support to not deepen their involvement to the degree that their futures are in jeopardy.

Low- and No-Risk Youth

About 10% are at *Low Risk*. They might take a drink once in a while (24%) or cut a class, but they are not in any jeopardy because of their behaviors. About a third are sexually active, and they always use contraception. At least 15% of all 14- to 17-year-olds are at *No Risk*. They report no high-risk behaviors, no depression, and no school problems.

These 5 million young people, more than a third of the youth population, are currently protected from the most deleterious consequences of the new morbidities. But they are surrounded by many of the negative factors that may promote antisocial behavior. They are also in jeopardy of being victimized by other youth. Their resilience may be dependent on the stability of their families, the quality of their schools, and the safety of their neighborhoods, all factors subject to change.

New Estimates Yield Higher Risk Rates

This estimate differs from the previous one in several ways. First of all, it encompasses only 14- to 17-year-olds, the time when most of the risk indicators peak. The previous estimate included 10- to 13-year-olds as well, which lowered the aggregate prevalences significantly. Also, in several domains, the prevalences have risen among 14- to 17-year-olds since the mid-1980s. Juvenile crime rates have increased slightly, reflecting more violent acts and more weapons offenses. Binge drinking and current smoking rates have gone up, but current drinking has come down, and the rest of substance-using behavior has stayed about the same. Sexual activity is near the same level, although condom use has improved. School dropout rates and school failure rates for this age group have changed little.

Approximately one third of all adolescents fall into the high-risk group in this iteration, compared with one fourth in the earlier version. One third are at medium risk, compared with one fourth previously. One third are at low or no risk, compared with one half. The point here is not scientific accuracy but rather the creation of rough calculations for the purposes of understanding the need for targeted interventions for high-risk youth.

Attributes of High-Risk Youth

A strong case can be made for targeting for immediate and powerful interventions those youngsters who "do it all" or, at least, do most of it. Almost one in three adolescents falls into this grouping. How can those children be recognized? Many studies verify the power of certain common variables as predictors or precursors of the different outcomes.

The NELS longitudinal study of eighth graders identified a group of factors that predicted school failure, focusing on family structure and status (National Center for Education Statistics, 1995). Some 26% of eighth-grade students in 1988 had one of the factors, and 20% had two or more, including single-parent homes, family incomes of less than $15,000, older sibling who had dropped out, parents who did not finish high school, limited proficiency in English, or being at home for 3 hours a day or more without supervision.

Two years later, 15% of the students with two or more of these factors had dropped out, compared with 2% of those with no factors. By 1992, when they were seniors, 33% with two or more factors were no longer enrolled in school, compared with 8% of those with none. By graduation time, 24% of the group with multiple factors were classified as dropouts, compared with only 4% of those with no factors. Those who had multiple family factors in 1988 were much more likely to have a child by 1992 (19% versus 5%) and to have been suspended or arrested.

A review of the studies cited above (see also Howell & Bilchek, 1995; Roth, 1995) that delineate factors that predict categorical high-risk behaviors yields a list of variables that appear to be the most common precursors across domains.

Family:
- Lack of supervision
- Lack of attachment and bonding
- Parental substance use
- Abuse and neglect
- Absence of cultural resources
- Frequent moving

School:
- Low expectations for success
- Little commitment to education
- Being behind in school
- Low grades

Community:
- Poverty
- Gangs
- Access to guns

Individual:
- Susceptibility to peer influences
- Lack of social competency
- Tolerance of deviance/unconventionality

Protective Factors

Despite living in a risky society, all young people are not in jeopardy of failure to grow into responsible adults. As this chapter has noted, some are not involved in any behaviors with potentially negative consequences, and a good many more are experimenting in quite responsible ways, for example, having protected sex in what they perceive as serious, long-term relationships. Most young people who use marijuana do not go on to become active drug abusers. Some researchers have suggested that experimentation is a healthy aspect of youth development. Shedler and Block (1990) suggest that "experimental use of drugs may be considered a normative behavior among U.S. teenagers in terms of prevalence, and from a developmental task perspective" (p. 613).

Protective factors are the flip side of risk factors. Young people who have "made it" despite all odds have been studied by several prominent researchers (Garmezy, 1985; Werner & Smith, 1982).

Four factors have been frequently mentioned that foster resiliency or invulnerability to the consequences of high-risk behaviors.

Attachment to a Caring Adult. The best documented fact in the extensive literature on youth is the importance of social bonding between a young person and an adult. The responsible adult may be either or both parents (single mothers can perform this function very well), a grandparent, teacher, or any other mentor. Consistency, caring, encouragement, and maintenance of contact through childhood and adolescence are all important factors. According to Resnick, Harris, and Blum (1993), the single most powerful explainer of emotional well-being in adolescents is a variable they call *family connectedness.* Adolescents who perceive a meaningful, caring relationship in their lives, either from their families or from another caring adult, are quite resistant to the negative consequences of drugs, sex, and delinquency. They are not immune, however, to the consequences of violence, for example, drive-by shootings or in-school episodes.

Independence and Competency. Many children who make it despite all odds appear to have a strong streak of independence. They can make decisions and solve problems on their own, seeming to have a built-in competence that helps them overcome barriers as they arise in poor social environments. Others describe them as having "sunny personalities." During periods of stress, resilient youth appear to be able to distance themselves from their troubled families.

High Aspirations. Autobiographical accounts contribute to the understanding of how the dreamer becomes the doer, for example, the disadvantaged youngster who wants to become a scientist and finds out how to get on the achievement track at the earliest age. Usually, an adult is involved in helping turn the aspirations into reality.

Effective Schools. A supportive and challenging school can act as a significant influence in the life of a disadvantaged youngster. As researchers express it, "the effect of all the other variables is through education," meaning that when other factors such as family structure, socioeconomic status, and race are taken into consideration, the bottom line is having access to a strong educational system.

Caring teachers with high expectations for students can act as buffers against the outside world and assist young people in achieving their goals.

Implications for Programs

The review of behavioral patterns, risk status, and risk and protective factors should serve as a framework for designing more effective prevention programs. All young persons are entitled to a supportive family, strong schools, and a safe environment, but some need more support than others. All young people are not at equal risk of failure. One third of adolescents need powerful targeted interventions that will change their life courses as soon as possible, or they will never be able to succeed. Intervention has to start early enough to head off these risky behavioral patterns. Given the knowledge of the patterning of problem behaviors, it is possible to identify youth at early ages with individual, family, school, and community attributes that place them at risk.

Do we know how to change the life courses of high-risk youth? My answer is a tentative "yes." Program evaluation is still in its early stages, producing many preliminary results from demonstration projects typically evaluated by the people who design them. Few of the successful models have been replicated and evaluated by outsiders. But the state of the art is far enough advanced to have a good idea about how to proceed.

Programs that address the underlying causes of the problems that youth encounter are more likely to help them change and succeed than those that focus only on single categorical behaviors. Proved interventions focus on approaches such as one-on-one support from a responsible adult (e.g., mentoring, tutoring, advocacy, and case management), family counseling, cognitive skills enhancement, training in social competency, community service, and youth involvement. Schools are fundamental building blocks in prevention of problem behaviors, first, as the purveyors of essential cognitive skills, and second, as the hub for one-stop centers. Comprehensive multicomponent school-community efforts have proved effects across domains. Outreach in the form of home visiting and street work is an important component when working with the highest-risk youth. Media can play an important role in shaping community

attitudes regarding health promotion and prevention of high-risk behaviors. Programs that are directed toward policy issues (such as gun control and taxation on cigarettes and alcohol), as well as services, have shown excellent results.

Attention to Settings

Concern is shifting from trying to alter individual behaviors to changing the settings that either promote or discourage healthy youth development. This position was spelled out in *Losing Generations,* a report of the National Research Council Panel on High-Risk Youth (1993), which recommended moving the locus of attention away from the personal attributes of adolescents and their families and toward the settings that so profoundly influence outcomes—families, neighborhoods, schools, health and welfare systems, employment and training, and the justice system. Researchers and practitioners (but not politicians) have reached a consensus that poverty and racism are major determinants of the declining status of children and that these issues must be dealt with for young people to have equal access to success in this society.

Early Identification

One method of early identification of children in high-risk settings is to target those who are behind their modal grade. Research has substantiated the negative consequences of being older than one's classroom peers. The further behind students fall, the more likely they are to fail and to become involved in activities with potentially negative consequences. This approach to early identification does not require extensive research or expenditure for new needs assessments. The age and grade of the child are one fact that is universally available. Schools with high grade retention rates are prime targets for intervention.

Replication

Many program models of effective schools and youth organizations do exist, but they have not been widely replicated. A recent review of selected categorical prevention programs identified a number of common factors driving replication (Dryfoos, 1996).

Strong evaluation and clear documentation of changed behavioral outcomes establish a program's reputation for success. And, of course, publication of evaluation findings in a peer-reviewed journal is de rigueur. A number of large-scale replications, however, have taken place without strong research findings. Some rely on the charisma of the leader. Qualities such as eloquence, evidence of commitment, being personable, and conveying a sense of authority give programs an aura. Having political know-how, building board membership that involves prominent business leaders, and knowing the "right" people help raise funds. Having an "in" with government agencies leads to high visibility, for example, inclusion in conferences, public hearings, and media events. Several programs have been written into legislation, moving from the demonstration project phase to becoming models for states (e.g., Parents as Teachers in Missouri, Family Life Education in New Jersey, and Primary Mental Health Project in California) and for federal grant programs (e.g., DARE in Drug Free Schools and Cities-in-Schools in Department of Justice and Department of Labor). Others enjoy foundation favor with large multisite grants that stimulate rapid dissemination, at least of the program concepts.

The marketing of program manuals, training videos, and prevention curricula is a big business. The expectation that social skills programs and substantive curricula can be faithfully replicated by teachers and other workers merely by supplying them with manuals and videos has not been born out by experience. Experience has shown, however, that replication can take place in a much more orderly way if training is organized and presented directly by the program developers. On-site facilitators and coaches have been used effectively in building second-generation programs. National youth organizations such as Girls Inc. and Boys and Girls Clubs have been particularly successful at disseminating effective models through their capacities to provide training and technical assistance to their affiliates. National research organizations and think tanks such as RAND and Public/Private Ventures also have the ability to employ program developers, conduct research, disseminate their own publications, and offer technical assistance. Several of the major replications of prevention projects are administered by university centers, but the majority of the replicated programs are managed by nonprofit agencies, national or even local youth organizations, and research-program development groups.

Program models designed to address the needs of various populations such as African American males and Hispanic youth are in demand by community-based organizations. Certain programs are attractive to practitioners because they are new, cutting-edge, imaginative, dynamic, or otherwise exciting.

Some programs with high-quality evaluations do not get replicated. The successful Midwestern Prevention Project developed by Pentz (1993) and colleagues at the University of Southern California program included five components: school-based curricula, parent programs, community organization, social policy change, and mass media components. Despite documentation of positive effects and a heavy exposure through conferences and publications, this project is not being replicated. The program is believed to be too complicated to implement without considerable financial support as well as sustained technical assistance (M. Pentz, personal communication, 1995).

Some programs with negative evaluations showing that the program has limited effect do get replicated. In some cases, the evaluation is used to change the model to improve the potential. In other cases, the evaluation is ignored, and the program is marketed with no change (Ringwalt et al., 1994). The latter is most observable in the substance abuse field, with huge sales of manuals and training time despite the adverse information (to which the public does not have access). Some popular interventions that have shown no effect on changing high-risk behaviors include self-esteem workshops, peer counseling, parent workshops, ability grouping, unstructured mentoring, and employment and training programs that do not include an educational component.

Evaluating Progress Through *Healthy People 2000*

One instrument for measuring success in preventing high-risk behavior among adolescents is the monitoring of progress through the national *Healthy People 2000* objectives. A midcourse review was conducted that documented some improvement in health outcomes but not as much advancement as might be hoped for among young people (DHHS, 1995). A look at the five categorical domains addressed here is not encouraging. Following declines during a decade, cigarette, alcohol, and marijuana use among youth began to increase in the mid-1990s, making it less likely that the rates will

be reduced to the year 2000 objectives. The proportion of females aged 15 to 17 who are sexually active, as well as pregnancy rates, has increased. Suicide attempts and suicide rates are elevating. Violence rates continue to increase. The dropout rate, although stabilized, has not fallen significantly.

Those who have worked in the field of prevention have a difficult time accepting that high-risk behavior continues to shape the lives of millions of adolescents. The rates seem unchangeable, no matter how hard practitioners labor to intervene. One problem is turnover: Every year, a new cohort of young people arrive in middle school, ready to experiment if they have not begun already. Efforts have to remain constant. Demonstration projects may work for 2 or 3 years, but they have no effect on succeeding generations except to provide guidance on effective programming. Evidence is clear from the experiments of the past that more powerful comprehensive approaches are required, that we cannot continue to treat troubled young people in categorical efforts that do not deal with the social and psychological environment that gives rise to these problems.

Just as the behaviors come in packages, so must the prevention and treatment. Young people who are failing in school, using drugs, carrying guns, and having unprotected sex are not likely to be influenced by sporadic classroom-based prevention curricula delivered by harassed teachers. These high-risk youngsters need a set of integrated components that have been identified through research and experience.

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